AMENDMENTS TO THE CLAIMS: This listing of claims replaces all prior versions and listings of claims in the instant patent application.

Listing of claims:

1.-2. (Canceled)

3. 6. (Previously presented) A method according to any one of claims 27, 33, 35, 54, or 61, wherein said greater than 50 different oligonucleotides are labeled.

4. 7. (Previously presented) A method according to claim 3, wherein said greater than 50 different oligonucleotides bear different labels.

5.-6. (Canceled)

7. 8. (Previously presented) A method according to any one of claims 27, 33, 35, or 54, wherein said first substrate comprises discrete sites to which said greater than 50 different oligonucleotides are covalently linked.

8.-9. (Canceled)

10. 9. (Previously presented) The method according to claim 27, 33, 35, 54, or 61, wherein said greater than 50 different oligonucleotides are synthesized by a synthesis method selected from the group consisting of printing and photolithography.

Claims 11-26 (canceled)

27. 1. (Previously presented) A method for multiplex detection of target nucleic acids comprising:

a) providing a first substrate comprising greater than 50 different oligonucleotides linked to said first substrate through cleavable linkers, said greater than 50 different oligonucleotides having sequences different from each other, wherein said substrate comprises an array of discrete sites to which said greater than 50 different oligonucleotides are covalently linked;

b) cleaving said linkers, thereby releasing said greater than 50 different oligonucleotides from said substrate thereby generating a pool of oligonucleotides comprising said greater than 50 different oligonucleotides;

c) contacting said pool of oligonucleotides with a composition comprising different target nucleic acids, whereby said different target nucleic acids hybridize with said greater than 50 different oligonucleotides in said pool of oligonucleotides;

d) modifying said greater than 50 different oligonucleotides in said pool of oligonucleotides hybridized with said different target nucleic acids to produce modified oligonucleotides, and

e) contacting said modified oligonucleotides with a second substrate comprising probe oligonucleotides, said probe oligonucleotides having sequences different from each other and having sequences different from said greater than 50 different oligonucleotides released from said first substrate, whereby said target nucleic acids are detected.

28.-32. (Canceled)

~~33.~~ 2. (Previously presented) A method for multiplex detection of target nucleic acids comprising:

a) providing a first substrate comprising greater than 50 different oligonucleotides covalently linked to said first substrate through cleavable linkers, said greater than 50 different oligonucleotides having sequences different from each other, wherein said first substrate comprises an array of discrete sites to which said great than 50 different oligonucleotides are covalently linked;

b) cleaving said linkers, thereby releasing said greater than 50 different oligonucleotides from said first substrate thereby generating a pool of oligonucleotides comprising said greater than 50 different oligonucleotides;

c) contacting said pool of oligonucleotides with different target nucleic acids;

d) modifying said greater than 50 different oligonucleotides in said pool of oligonucleotides contacted with said different target nucleic acids to produce modified oligonucleotides;

e) contacting said modified oligonucleotides with a second substrate comprising probe oligonucleotides, said probe oligonucleotides having sequences different from each other

and having sequences different from said pool of oligonucleotides released from said substrate, and

f) detecting said target nucleic acids.

34. (Canceled)

~~35.~~ 3. (Previously presented) A method for multiplex detection of target nucleic acids comprising:

a) cleaving greater than 50 different oligonucleotides linked to a first substrate through at least a first cleavable linker from said first substrate, wherein said first substrate comprises an array of discrete sites to which said greater than 50 different oligonucleotides are covalently linked, thereby releasing said greater than 50 different oligonucleotides from said first substrate generating a pool of oligonucleotides, said greater than 50 different oligonucleotides having sequences different from each other;

b) contacting said pool of oligonucleotides with different target nucleic acids;

c) modifying said greater than 50 different oligonucleotides contacted with said different target nucleic acids to produce modified oligonucleotides, and

d) contacting said modified oligonucleotides with a second substrate comprising probe oligonucleotides, said probe oligonucleotides having sequences different from each other and having sequences different from said greater than 50 different oligonucleotides cleaved from said first substrate, and

d) detecting said target nucleic acids.

~~36.~~ 10. (Previously presented) The method according to claim 1, 2, 3, 4 ~~27, 33, 35, 54~~ or ~~61~~, wherein said first substrate is selected from the group consisting of glass, plastics, polysaccharides, nylon, nitrocellulose resins, silica, silicon, carbon, and metals.

~~37.~~ 11. (Previously presented) The method according to claim 1 ~~27~~, wherein said first and second substrates comprises a chip.

Claims 38.-53 (canceled)

~~54.~~ 4. (Previously presented) A method for multiplex detection of target nucleic acids comprising:

a) providing a first substrate comprising greater than 50 different oligonucleotides linked to said first substrate through cleavable linkers, said greater than 50 different oligonucleotides having different sequences, wherein said first substrate comprises an array of discrete sites to which said greater than 50 different oligonucleotides are covalently linked;

b) cleaving said linkers, thereby releasing said greater than 50 different oligonucleotides from said substrate thereby generating a pool of oligonucleotides comprising said greater than 50 different oligonucleotides;

c) contacting said pool of oligonucleotides with a composition comprising different target nucleic acids, whereby said target nucleic acids hybridize with said greater than 50 different oligonucleotides in said pool of oligonucleotides;

d) modifying said greater than 50 different oligonucleotides hybridized with said target nucleic acids to produce modified oligonucleotides; and

e) contacting said modified oligonucleotides with a second substrate comprising probe oligonucleotides, said probe oligonucleotides having sequences being different from each other and having sequences different from said greater than 50 different oligonucleotides released from said first substrate, said probe oligonucleotides being distributed randomly on said second substrate, whereby said target nucleic acids are detected.

55.-56. (Canceled)

~~57.~~ 12 (Previously presented) A method according to claim 1,2,3,4 or 5 ~~27, 33, 35, 54 or 61~~, wherein said modifying step comprises sequencing or amplification.

~~58.~~ 13 (Previously presented) A method according to claim 1,2,3,4 or 5 ~~27, 33, 35, 54 or 61~~, wherein said modifying step comprises polymerase chain reaction (PCR), .

59.-60. (Canceled)

~~61.~~ 5. (Previously presented) A method for multiplex detection of target nucleic acids comprising:

a) providing a first substrate on which are disposed different beads having greater than 50 different oligonucleotides covalently linked to said different beads through cleavable linkers, said greater than 50 different oligonucleotides having sequences different from each

other, wherein said first substrate comprises an array of discrete sites on which said beads are disposed;

b) cleaving said linkers, thereby releasing said greater than 50 different oligonucleotides from said beads, thereby generating a pool of oligonucleotides comprising said greater than 50 different oligonucleotides;

c) contacting said pool of oligonucleotides with different target nucleic acids;

d) modifying said greater than 50 different oligonucleotides in said pool of oligonucleotides contacted with said different target nucleic acids to produce modified oligonucleotides;

e) contacting said modified oligonucleotides with a second substrate comprising probe oligonucleotides, said probe oligonucleotides having sequences different from each other and having sequences different from said pool of oligonucleotides cleaved from said beads, and

f) detecting said target nucleic acids.

62. (cancelled)

14. 1,2,3 4 ~~63.~~ (Previously presented) The method according to any one of claims ~~27, 33, 35~~, or ~~54~~, wherein said first substrate comprises greater than 1000 different oligonucleotides.

64. (cancelled)

65. (cancelled)

15. ~~66.~~ (Previously presented) The method of claim 61, wherein said different beads comprise greater than 1000 different oligonucleotides.

67. (cancelled) ~~A~~

16. 1,2,3,4 or 5 ~~68.~~ (Withdrawn) The method of claim any one of claims ~~27, 33, 35, 54, or 61~~, wherein said modifying step comprises ligase chain reaction (LCR).

17. 1,2,3,4 or 5 ~~69.~~ (Withdrawn) The method of claim any one of claims ~~27, 33, 35, 54, or 61~~, wherein said modifying step comprises cycling probe technology (CPT).

18. 1,2,3,4 or 5

~~70.~~ (Withdrawn) The method of claim any one of claims ~~27, 33, 35, 54, or 61~~, wherein said modifying step comprises Invader.

19. 1,2,3,4 or 5

~~71.~~ (Withdrawn) The method of claim any one of claims ~~27, 33, 35, 54, or 61~~, wherein said modifying step comprises oligonucleotides ligation assay (OLA).

20. 1,2,3,4 or 5

~~72.~~ (Withdrawn) The method of claim any one of claims ~~27, 33, 35, 54, or 61~~, wherein said modifying step comprises single base extension (SBE).

21. 1,2,3,4

~~73.~~ (Previously presented) The method of claim any one of claims ~~27, 33, 35, 54~~, or ~~61~~, wherein said modifying step comprises amplification.

22. 1,2,3,4 or 5

~~74.~~ (Withdrawn) The method of claim any one of claims ~~27, 33, 35, 54, or 61~~, wherein said modifying step comprises rolling circle amplification.